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	Columbia, SC 29201		Other					
NOTE: The cover s	heet and information cor	tained herein neither renlac	Emai		odges@nelsonmu	of pleadings or other papers		
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☐ Electric/Water	☐ Electric/Water			Objection		Resale Agreement		
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Before the Public Service Commission of South Carolina

Docket No. 2008-4-G

Annual Review of Purchased Gas Adjustment and Gas Purchasing Policies of Piedmont Natural Gas Company, Incorporated

Testimony of Keith P. Maust

On Behalf Of Piedmont Natural Gas Company, Inc.



- 1 Q. Please state your name and your business address.
- 2 A. My name is Keith P. Maust. My business address is 4720 Piedmont Row
- 3 Drive, Charlotte, North Carolina.
- 4 Q. By whom and in what capacity are you employed?
- A. I am employed by Piedmont Natural Gas Company, Inc., (Piedmont) as
 Managing Director, Gas Supply and Scheduling.
- 7 Q. Please describe your educational and professional background.
- 8 A. I graduated from West Virginia University in 1976 with a Bachelor's 9 Degree in Business Administration. I was employed by Tennessee Gas 10 Pipeline for five years from 1983 to 1988 as an Analyst in the Gas Reserves 11 and Gas Supply departments. I joined Piedmont as a Gas Supply Analyst in 12 July, 1988. I was promoted to Manager of Gas Supply in 1991 and Director 13 of Gas Supply in 1995. In 1996 I was promoted to Director of Gas Supply 14 and Wholesale Marketing. I was promoted to Managing Director, Gas 15 Supply and Scheduling in 2006.
- 16 Q. Please describe the scope of your present responsibilities for Piedmont?
- A. My current major responsibilities include supervision of long and short-term purchasing and scheduling of gas supply and gas cost management activities.
- Q. Have you previously testified before this Commission or any other regulatory authority?
- A. Yes, I have presented testimony in 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006 and 2007 and appeared as a witness before this Commission in the matter of the Commission's annual review of Piedmont's Gas Costs and Purchasing Policies (Dockets No.97-007-G, 98-004-G, 99-004-G, 2000-004-G, 2001-004-G, 2002-004-G, 2003-004-G, 2004-004-G, 2005-005-G, 2006-4-G

and 2007-4-G) and in the matter of Piedmont's approved hedging policy (Docket No. 2001-410-G). I have also presented testimony and appeared as a witness before the North Carolina Utilities Commission (NCUC) regarding Piedmont's gas purchasing policies and proposed hedging plan and presented testimony before the Tennessee Regulatory Authority (TRA) regarding Nashville Gas Company's Incentive Plan Account.

Q. What is the purpose of your testimony in this proceeding?

A. My testimony will describe Piedmont's gas purchasing policies. This testimony is in response to the Commission's directive issued in Order No. 88-294 dated April 6, 1988 requiring ". . . annual public hearings . . . to review the Company's . . . gas purchasing policies" and in response to the Commission's Order establishing pre-filing deadlines in this docket.

Q. What is the period of review in this docket?

A. The review period is April 1, 2007 through March 31, 2008.

Q. Please explain Piedmont's gas purchasing policies.

A. Piedmont has previously utilized and continues to maintain a "best cost" gas purchasing policy. This policy consists of five main components -- the price of the gas, the security of the gas supply, the flexibility of the gas supply, gas deliverability and supplier relations. All of these components are interrelated, and we will continue to weigh the relative importance of each of these factors when developing an overall gas supply portfolio to meet the needs of our customers.

Q. Please describe each of the five components.

A. The "price of the gas" refers to the delivered cost of gas to Piedmont's city gate. In order to properly judge prices at a comparable transaction point, Piedmont evaluates purchase prices at the pipeline city gate points of delivery

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into Piedmont's distribution facilities. With the unbundling of the interstate pipeline industry, substantial flexibility exists in structuring gas supply arrangements. The majority of Piedmont's supply purchases take place at "pooling points" into the pipeline on which Piedmont holds firm transportation capacity rights. These "pooling point" supply purchases from producers and marketers include the commodity cost of gas at the pooling points and the fuel to be retained by the downstream pipeline transporter. Commodity transportation charges are also assessed separately by pipelines. Any "best cost" analysis that solely considered supply area or "pooling point" cost would fail to recognize the varying cost in fuel and commodity costs associated with transporting gas purchased from different supply area locations to Piedmont's city gate. In the case of "bundled" city gate supply purchases, Piedmont may pay the gas supplier an all-inclusive price that covers the cost of gas, fuel and transportation charges. Of course, peaking and storage services may add additional injection, withdrawal, and related fuel charges to the city gate cost of gas. All of these cost components must be taken into account in evaluating the "price of the gas."

"Security of gas supply" refers to the assurances that the supply of gas will be available when needed. Obviously, it is important to maintain a high level of supply security for Piedmont's firm customers who have no alternate fuel capability. Security of gas supply is less important for our interruptible customers who have access to alternate fuels. In order to reserve firm gas supplies under contract, fixed reservation fees are generally required in addition to the commodity cost of gas. In addition, the geographic source of supply, the nature of the supplier's portfolio of gas supplies (especially during critical conditions) and negotiated contract terms must be considered when evaluating

the level of supply security. Thus, the security of gas supply is interrelated with the price of gas and the other components of Piedmont's "best cost" purchasing policy.

"Flexibility of gas supply" refers to our ability to adjust the volume of a particular gas supply as operating and market conditions change from time to time. For example, firm heat sensitive customers will vary their consumption depending on the weather conditions in Piedmont's service area. Interruptible customers will vary their level of purchase depending on the price of alternate fuels and the demand for product in their own industry. Thus, Piedmont must arrange a portfolio of gas supplies and storage service flexible enough to meet the daily and monthly "swings" in the market place. Contractual gas supply "swing rights" are implemented through periodic renominations with gas suppliers and through injections into and withdrawals from storage.

"Gas deliverability" refers to the ability to obtain Piedmont's gas supplies at the city gate through reliable transportation and storage capacity arrangements. The unbundling of the interstate pipeline industry has created a complex system of multiple pipeline services and service combinations. Transportation arrangements can involve supply area gathering services, intrastate transportation, interstate lateral line and pooling services, multiple interstate pipeline transportation and storage arrangements, and balancing and peaking services. The marketplace for pipeline capacity service is static, with little to no unused capacity available during periods of design temperature conditions. Consequently, it is important that we secure and maintain firm transportation and storage capacity rights to ensure the deliverability of our gas supplies to meet the design day, seasonal, and annual needs of our customers. Of course, pipeline capacity contracts require the payment of fixed demand

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charges to reserve firm transportation or storage entitlements. Piedmont is active in proceedings at the Federal Energy Regulatory Commission (FERC) not only with respect to the level of pipeline charges under these contracts, but also the tariff terms and conditions that apply to these pipeline services.

"Supplier relations" refers to the dependability, integrity and flexibility of a particular gas supplier. We contract with gas suppliers who have a reputation of honoring their contractual commitments and have proven themselves as reliable suppliers. Conversely, we avoid suppliers which have a reputation of defaulting on contract obligations or who unilaterally interpret contracts to their advantage. We prefer to deal with suppliers who are constantly looking for ways to improve service and offer "win-win" solutions for meeting customer needs.

Q. Please describe the arrangements under which Piedmont purchases gas.

Piedmont purchases gas supplies under a diverse portfolio of contractual arrangements with a number of reputable gas producers and marketers. In general, under Piedmont's firm gas supply contracts, Piedmont pays negotiated reservation fees for the right to reserve and call on firm supply service up to a maximum daily contract quantity (nominated either on a monthly or daily basis), with market-based commodity prices tied to indices published in industry trade publications. These firm contracts range in term from one year (or less) to terms extending into 2011. Longer term contracts may provide for periodic reservation fee renegotiations. Some of these contracts are for winter only (peaking or seasonal) service and some provide for 365 day (annual) service. Firm gas supplies are purchased for reliability and security of service and are generally priced on a reservation fee basis according to the amount of nomination flexibility built into the contract (daily swing service being more

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expensive than monthly baseload service). When existing supply contracts expire, requests for proposals are sent, as needed, to suppliers meeting Piedmont's "best cost" purchasing policy requirements as detailed earlier in my testimony. Firm supplies are then contracted from suppliers whose proposals best fulfill Piedmont's "best cost" purchasing policy.

Piedmont also purchases gas supplies in the spot market under contract terms of one month or less. These contracts provide for little or no supply security in that they are interruptible and short term in nature. As a result, Piedmont relies on these contracts primarily for interruptible markets during off-peak periods when spot supplies are more abundant and for supplemental system balancing requirements. Because of the nature of spot contracts, these supplies do not command reservation fees and are priced on a commodity basis, generally by reference to industry index or negotiated prices.

- Q. How does the interrelationship of the five factors described above determine the character of the supply and capacity contracts under your "best cost" policy?
 - Under our "best cost" policy, we attempt to secure and maintain a supply portfolio that is in balance with the requirements of our sales markets. Because our firm sales market must have a secure and reliable gas supply, we meet the needs of this market primarily with long-term firm supply and transportation contracts, supplemented by storage and peaking services. The temperature sensitivity of the firm market necessitates that flexibility of supply and storage also be provided. As mentioned earlier, firm supply contracts demand a premium payment, typically in the form of fixed reservation fees. Also, firm supply contracts with flexibility of swing service entitlements will command a higher price than baseload arrangements. Because our interruptible market is

more price sensitive and requires less supply security, we supply this market with off-peak firm gas supply and transportation services when the core market demand declines and through the purchase of gas supplies in the spot market. In short, before entering into any agreement to purchase gas or pipeline capacity, we carefully consider the use for the supply and weigh the five "best cost" factors (price, security, deliverability, flexibility, and supplier relations). Obviously, a great deal of judgement is required when weighing these factors. To help us exercise this judgement, we try to keep informed about all aspects of the natural gas industry. We intervene in all major FERC proceedings involving our pipeline transporters, stay in constant contact with our existing and potential suppliers, monitor gas prices on a real-time basis, subscribe to industry literature, follow supply and demand developments, and attend industry seminars.

Q. What is your greatest challenge in applying your "best cost" gas purchasing policy?

A. Since most major gas supply decisions require a considerable degree of planning and must be made years in advance of service, our greatest challenge is dealing with future uncertainties in a dynamic national and regional energy market. In a perfect world, we would be able to accurately predict our future demand for gas, the future availability and pricing of gas supplies and capacity, and future regulatory policies. Of course, in the real world, we cannot accurately predict any of these factors. Future demand for gas is affected by economic conditions, customer conservation efforts, weather patterns, regulatory policies and industry restructuring in the energy markets. The future availability and pricing of gas supplies will be affected by overall demand, oil

and gas exploration and development, pipeline expansion projects, and regulatory policies and approvals.

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Q. Please explain the Company's position regarding the current U.S. supply situation.

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The United States, which had been struggling to avoid a gradual decline in natural gas production, experienced a slight increase in natural gas deliverability due primarily to increased production in the Rockies and unconventional plays such as the Barnett Shale region if North Texas, the Fayetteville Shale of Arkansas and the Woodford Shale of southeastern Oklahoma. New plays such as the Marcellus Shale, which cuts across a large part of New York, Pennsylvania and West Virginia are attracting a lot of attention and could be very prolific production areas. The gulf coast is a mature production basin, meaning the region has been extensively drilled by production companies for several decades. Therefore, all the "low hanging fruit," or easily found supply, has already been or is currently being produced. Although this region will continue to be an important part of the country's natural gas supply portfolio, additional supplies from other areas like the Marcellus Shale will have to supplement declining gulf coast production for supplies to remain adequate and reasonably priced. LNG imports, which were expected to help offset price increases caused by increased gas usage for electric generation, have decreased due to global increases in demand in locations such as Spain, Japan, China, India and South Korea. Natural Gas has truly become a global commodity, with LNG shipments being diverted to regions that value them the most. It has become apparent that areas that are currently off-limits to drilling such as coastal waters and the development of pipeline facilities from regions like Alaska will be necessary for natural gas supplies to remain sufficient and affordable.

Q. Has the increase in oil prices affected the price of natural gas?

- A. Yes. Oil prices have remained high due to increases in global demand and political instability in many of the large producing regions of the world. The majority of our interruptible industrial load has the ability to utilize fuel oil as an alternative to natural gas. Because the cost of alternative fuel oil has remained high, most of our duel fuel industrial customers continue to choose natural gas as their fuel of choice, creating upward pressure on the cost of natural gas.
- Q. Has electric generation fueled by natural gas affected the price of natural gas?
- A. Yes. Hotter than normal weather and the resulting increase in electrical demand supplied by natural gas fueled generation contributes to increased volatility and pricing of natural gas. Because of its environmentally friendly nature, additional electric generation facilities fueled by natural gas continue to be built in lieu of other energy source alternatives. It is only logical to assume that natural gas prices will be affected by the corresponding increased consumption of natural gas used for electric generation.
- Q. Please explain the factors that the Company evaluates in determining the pricing basis for its gas supply contracts. Please discuss the various pricing alternatives available, such as fixed prices, monthly market indexing and daily spot market pricing and describe how supplier reservation charges and discounts or premiums from market prices enter into the evaluation.
- A. The Company has various pricing options available to it when developing its gas supply portfolio. These options include fixed pricing, monthly market

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indexing and daily spot pricing. Fixed pricing scenarios are addressed in the Company's hedging plan, which has been approved by the Commission. The reservation fee the Company pays for each contract in its firm supply portfolio is dependent upon the pricing options chosen and the supply flexibility requirements associated with each contract. Reservation fees are generally lower for base load supplies (purchased at a constant volume for the entire month) and higher if swing service is required. Reservation fees vary depending on the type of swing service being provided. Examples of factors which affect the cost of swing service are: a) the number of days of swing required; b) the volume of swing allowed; c) commodity pricing at first of the month indices versus daily spot pricing; d) first of the month keep whole pricing; e) intraday versus interday swing capabilities; and f) location of the supply being purchased. The Company considers its anticipated load factor and swing requirements under various weather scenarios, measuring the exposure to price fluctuations of the spot market and the factors listed above and makes a "best cost" purchasing decision.

- Q. Please describe how the Company determines the daily contract quantity of gas supplies that should be acquired through long-term contracts for the whole year, the full winter season and periods less than a full winter season.
- A. The Company will purchase gas supplies on a year around basis to fulfill its firm requirements including storage injections and to minimize supply costs utilized to serve both firm and interruptible markets. Some of these contracts will escalate in volume during shoulder months and the winter period (November through March) as the Company's firm requirements increase due to colder weather, thus sculpting year around contracts to fit seasonal needs.

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The Company also purchases volumes for the winter period to match its firm transportation capacity entitlements, which also increase during the winter period. Lastly the Company may purchase short-term city gate peaking supply to fulfill additional firm obligations as the company experiences peak day firm demand requirements. The company reviews warm winter weather scenarios to measure its ability to fulfill its contractual purchase commitments with suppliers.

- Please explain the provisions in the Company's gas supply contracts that Q. allow or help facilitate future renegotiation efforts if future market conditions offer new opportunities and describe any contractual restraints that prevented the Company from obtaining full benefit of favorable spot market conditions during the review period.
- All of the Company's supply contracts have market-based commodity prices A. tied to indices published in industry trade publications. These commodity pricing provisions allow the Company to obtain the full benefit of market priced gas.
- What process does the Company employ in selecting its firm gas suppliers? Q.
 - The Company identifies the volume and type of supply that it needs to fulfill its market requirements and solicits requests for proposals (RFP's) from a list of suppliers that the gas supply department continuously updates as potential suppliers enter and leave the market place. As mentioned earlier, type of supply is classified as baseload or swing and firm or interruptible. Requests for proposals for swing supply may be further categorized into pricing based on first of the month indices, keep whole, or daily market indices. Swing supplies priced at first of the month indices command the highest reservation fees because suppliers incur all the risk associated with market volatility during the

delivery period. Keep whole contracts require the Company to reimburse suppliers for the difference between first of the month index prices and lower daily market prices if the Company doesn't take its full contractual volume. Because the Company assumes the volatility risk associated with falling prices, a lower reservation fee is warranted. Lower reservation fees are also associated with swing contracts based upon daily market conditions because both buyer and seller assume the risk of daily market volatility. After forecasting the load factor of each individual contract and evaluating the cost of reservation fees associated with each type of supply and its corresponding bid, the Company makes a "best cost" decision on which type of supply and supplier to fulfill its needs. Please summarize any supply arrangements entered into by the Company Q. during the review period. During the review period the Company added new seasonal or year around Α.

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- supply utilizing its normal RFP process described earlier.
- Q. Please describe the process that Piedmont utilized and the market intelligence evaluated during the review period to determine the prices charged for off-system sales.
- The process and information used by Piedmont in pricing off-system sales Α. depends upon the term of the sale, the type of sale and prevailing market conditions at the time of the sale. For long-term delivered sales (longer than one month), Piedmont solicits bids from potential buyers and awards volumes based on the bids received. For short-term transactions (daily or monthly) Piedmont will monitor prices and volumes on Intercontinental Exchange (Intercontinental Exchange or "ICE" is an electronic trading platform where potential buyers post bids and potential sellers post offers at various physical

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1		locations), talk to various market participants on the telephone and for less
2		liquid trading points, estimate prices based on price relationships with more
3		liquid points. The Company will also evaluate the amount of supply available
4		for sale and weigh that against current market conditions in formulating its
5		sales strategy (i.e., if Piedmont has a large amount of supply to sell on a
6		particular day and determines that market demand is low, the Company will be
7	٠	more aggressive in its sales strategy. The Company incorporates all these
8		factors and then initiates sales via "ICE" or over the telephone.
9	Q.	Did Piedmont make any changes in its gas purchasing policies or practices
10		during the period of review?
1.1	A.	Piedmont did not implement any changes in its "best cost" gas purchasing

Did Piedmont's Hedging Plan work properly during the review period? Ο.

policies or practices during the test period.

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- 14 Yes. The Hedging Plan accomplished its goal of providing an additional tool to 15 reduce gas cost volatility to customers in South Carolina that purchase gas from 16 Piedmont.
 - What were the net economic results of the Hedging Plan during the review Q. period?
- A. Piedmont's South Carolina customers incurred a net economic cost of 20 \$1,898,938 as a result of Piedmont's hedging plan during the review period. This net economic impact includes expenses incurred in administering the program including commissions, software, subscriptions and data feed.
 - Q. Please describe how compliance with the Hedging Plan is monitored.
- 24 A. Currently, the Gas Accounting, Finance, and Corporate Compliance areas 25 perform ongoing activities to monitor compliance with the Plan. In addition, on 26 a bi-monthly basis the Energy Risk Management Committee (ERMC) monitors

1		compliance to the Plan. Periodic internal audits have and will be performed to
2		ensure controls continue to be adequate and function as management intends.
3	Q.	Have there been any deviations from the Hedging Plan during the review
4		period?
5	A.	There were no deviations from the plan during the review period.
6	Q.	Did the Company take any other action to reduce price volatility for its
7		customers?
8	A.	The Company utilized storage as a physical hedge to stabilize cost. The
9		Company's Equal Payment Plan and use of the PGA benchmark price and
10		deferred cost accounting allowed for a smoothing effect on gas price volatility.
11	Q.	What are some of the other steps Piedmont has taken to manage its gas
12		costs consistent with its "best cost" policy during the review period?
13	A.	During the past year, Piedmont has taken the following additional steps to
14		manage its gas costs, consistent with its "best cost" policy:
15		(1) Piedmont has actively participated in proceedings before the
16		FERC and other regulatory agencies that could reasonably be expected to affect
17		Piedmont's rates and services;
18		(2) Piedmont has utilized the flexibility available within its supply
19		and capacity contracts to purchase and dispatch gas, release capacity and
20		initiate secondary marketing sales in the most cost effective manner, resulting
21		in South Carolina capacity release and secondary market sales credits of
22		\$6,445,405, an increase of \$725,297 over the prior year;
23		(3) Piedmont has actively promoted more efficient peak day use of
24		natural gas and load growth from "year-around" markets in order to improve
25		the Company's load factor and reduce average unit costs.
26	Q.	Please summarize your testimony.

A.

Piedmont's "best cost" purchasing policy provides the Company with a secure, reasonably priced supply of gas to meet the requirements of its customers. This policy and the Company's practice under this policy have been reviewed and found prudent on all occasions in South Carolina and the other state jurisdictions in which we operate. Although we believe our policies and procedures are reasonable, we are cognizant of the fact that the natural gas industry is rapidly changing, and we are constantly monitoring our policies and procedures to keep up with, and even anticipate, these changing conditions. We have and will continue to meet with the Commission Staff to review current regulations and tariffs and explore possible changes that will better serve natural gas consumers in the future. We are satisfied that our existing policies and procedures are prudent and that they have produced and will continue to produce adequate amounts of reasonably priced gas for our customers.

Q. Does this conclude your testimony?

A. Yes.

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the attached *Testimony of Keith P. Maust on Behalf of Piedmont Natural Gas Company, Inc.* are being served this date via email and UPS Overnight (5 copies) upon:

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And that a copy of the attached *Testimony of Keith P. Maust on Behalf of Piedmont Natural Gas Company, Inc.* are being served this date via email and U.S. Mail upon:

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This the 11th day of June, 2008.

s/ James H. Jeffries IV James H. Jeffries IV